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# RENTERO'S BINOMINAL: CHESS AND LINARES

Linares is one of the most important cities in the province of Jaén, well-known for its mining past and its agricultural and industrial present.

However, since 1978, it combined its name with chess when a visionary from Linares and a great enthusiast to science game, Luís Rentero came true the celebration of its I International Chess Tournament Linares City. At that moment, he was not aware that this modest step would turn Linares into the identity sign of world chess.

From that first edition twenty-six more arrived; product, initially, of Luís Rentero's enormous contribution and, subsequently, of Linares Town council. For this tournament the most important world chess top



Kasparov-Karpov, Linares 2001

figures of the last thirty-two years have passed through, among who the ex-champions Kasparov and Karpov, and the current champion, Anand stand out. Among them have won more than half of the celebrated tournaments, although Kasparov is the one who has inscribed his name in more than a third of the tournaments till 2005. In this year and after winning his last tournament in Linares he made public his retirement of chess practice. A special mention deserves Karpov's victory in the "Magistral de Linares" from 1994, where he achieved the best result till the present:

1º Karpov 11 of 13 (+9 = 4); 2º-3º Kasparov and Shirov 8.5, etc.



Unlike other chess festivals whose fundamental aim is to organize events to all game levels, Linares committed soon, exclusively, to chess excellence, achieving on several occasions the maximum category. As such, it is well-known popularly as the "Chess Wimbledon". In the last few years, a high level circuit of tournaments called Grand Slam has been created, inside which the "Magistral de Linares" is unavoidable.

We can see how chess has projected Linares image around the world, being its better ambassador.

Apart from all that, the benefits obtained from chess practice are well-known. Some skills such as capacity for analysis, concentration, logical thought, development of the memory, taking of decisions, planned action, aptitude

for synthesizing, to detect favourable and less propitious aspects from situations, etc., are very useful for students, being them favoured and promoted by the exercise of this sport. Due to this many countries have included chess as an optional course within their school curricula. This also happens in some schools of Linares.

On the other hand, some studies on the preventive labour of chess in relation to a disease, so harmful, as Alzheimer are less spread. In that sense, it is pertinent to mention the work of the neuropsychologist Isabel de la Fuente, in collaboration with the international master chess Mauricio Vasallo, carried out in Clinical Hospital of Valencia. The starting idea would consist in Alzheimer, at an initial phase, deteriorates some functions as memory and concentration; and these are strengthened by the practice of science game. Therefore, playing chess, in general, and specifically in these ages, is considered as a prophylactic measure regarding this disease.

I would not like to conclude this article by obvious reasons without exploring another connection of this sport: Chess and Maths. Though some urban legends in this field exist about the correlation between the excellence in the performance of both activities; it is true that some great chess players also achieved a certain importance in our discipline. We are going to focus on the world chess ex-champions, Lasker and Euwe.



**E. Lasker (1868-1941)**

Emanuel Lasker, a German master, (1868-1941) was the second world chess champion, holding this title during the period from 1894 to 1921, being himself the player who has held this award in his hands during more time. He carried out Maths studies at the Universities of Heidelberg, Berlin and Göttingen, and was a Hilbert's student. He did his PhD in 1900 with the thesis called "Über Reihen auf der Convergengzgrenze" supervised by Max Noether. His mathematical fundamental work goes into Dedekind's in more depth, about the existence and uniqueness of decomposition of an ideal as a product of prime ideals, and Max Noether's, concretely the so-called "Theorem  $a+b$ ". In 1905, he established the primary decomposition of ideals in the ring of polynomials, where now the ideal  $I$  is obtained as a finite intersection of a certain family of ideals  $q_1, \dots, q_k$ ,  $I = q_1 \cap \dots \cap q_k$ .



**Max Euwe (1901-1981)**

The ideals  $q_1, \dots, q_k$  are the primary components of the ideal. His works found further development in Macaulay (1862-1937) and Emmy Noether's researches (1882-1935) – Lasker-Noether's theorem -.

Max Euwe, a Dutch master, (1901-1981) was the fifth world champion, condition which held between 1935 and 1937. He studied at the University of Amsterdam, where in 1926 he defended his doctoral thesis "Differentialinvarianten van twee covariantie-vectorvelden met vier veranderlijken" supervised by Weitzenböck and de Vries. His subsequent work, specially from 1954, is directed towards the programming of computers for playing chess.

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